

ABSTRACT OF THE DISCLOSURE

In the non-node, the apparatus neither obtains a self-physical_ID nor transmits a self_ID packet. Therefore, the apparatus is not recognized as a node in a self-identification phase. However, the apparatus, but transmits an ident_done signal received from a child node directly to a parent node. Moreover, when the apparatus becomes a route node in a tree identification phase in the non-node mode, after normal configuration, a PHY configuration packet output section outputs a PHY configuration packet for resetting an apparatus of another node as a route node. In a normal mode, the apparatus obtains a self physical_ID and transmits a self_ID packet. Therefore, the apparatus is recognized as a node in the self-identification phase.